CHAPTER 10

Winners and Losers

The Army of 1918 was not the Army of 1914. Not only had the nature of the Army undergone a radical change through the creation of a 'citizen army' with an influx of officers and men with different political attitudes, different educations, different backgrounds, but many of the weapons with which this Army fought were very different from what the regulars and reservists of 1914 had been armed with. Moreover, tactical developments had been through a sea change.

The victories of 1918 were due more to these tactical developments than to any new weapon, although the two were inextricably intertwined. The notion that there was a war-winning weapon was a propaganda myth perpetuated during and after the war by men who had axes to grind, whether it was tank warfare or the incompetence of generals. No one, especially politicians, advocated a particular weapon with altruism in his heart. The truth is that had the tactical developments not occurred there would have been no victory for the Allies in 1918, if ever. It was how the infantry, artillery and air force were used cooperatively that made the difference. The new tactics used the destructive power of artillery much more scientifically and took into account the strengths and weaknesses of the 'new' weapons along with the benefits of air cooperation. By the end of the war, the British Army was a twentieth-century force; in 1914 it had been rooted in the nineteenth-century.

How weapons were used on a tactical level was the significant factor. Massed Livens Projectors, for example, used against a small area of enemy-held territory followed by the immediate taking of the ground by infantry was a formula that worked very effectively. When the Germans copied the projectors and tried to emulate the British successes they failed because they got the tactics wrong. Weapons such as the Mills grenade and the Stokes mortar had a tremendous impact on tactical developments, partly because they opened up new possibilities but also because they came to be relied on in ways undreamt of in 1914. Even by the middle of the war, troops were being castigated for over-reliance on hand and rifle grenades to the detriment of musketry but it made little difference to what soldiers did, partly because of the way training emphasized the grenade.

In some ways, this was an inevitable reactionary response by senior officers who had grown up with the importance of musketry inculcated in their thinking. Even old soldiers like Frank Richards deplored the loss of musketry skills. It took time for the benefits of effective and safe hand and rifle grenades to make themselves felt on tactical thinking. On the other hand, the front-line troops quickly became aware of the benefits of rifle grenades once they had been supplied with weapons they could rely on. By 1918 troops would rather use the Mills than the SMLE and shooting skills were nearly non-existent. But musketry never took a strong point or a concrete pillbox which could be efficiently silenced with a combination of hand and rifle grenades. Again it was the development of new tactics with new weapons that made it possible.

Similarly, the Stokes mortar was effective in destroying strong points and machine-guns when used in the right way. The earlier mortars could not have been used to do this. The realization that the new grenades and mortars could be relied on and that they could achieve things which their predecessors could not came about much more quickly than might have

been the case with the old regulars because the civilian soldiers did not carry the same military baggage as the professionals. There was more to it than this, of course, because men like Newton, Livens and Jackson were professional soldiers and without them many of the developments in weapons would not have taken place nor reached the Front. Their inspired thinking, their energy to get things done and their willingness to experiment made a tremendous difference to what became available to the British soldier.

Development of new weapons was a continuous process. Even when a weapon had been adopted for service use, experimentation continued. Sometimes this was necessary because there were serious defects to be resolved. The early Mills and the early Stokes were far from perfect and there were numerous accidents. To some extent expedience had led to their adoption in the first place – the Army was in dire need. Most of the new devices given to the Army in 1915 were imperfect to a degree that would have caused an outcry in peacetime. In a sense, the best weapons rose to the surface although this is a slightly misleading statement. The popularity of the Mills put a damper on the development of other grenades. Had the timing of events been different, the Mills might never have attained the unassailable position it did. It was not necessarily the best that could have been developed. The same could not be said of the Stokes, however. Despite problems with the ammunition when it first entered service, it became an outstanding weapon. Moreover, nothing better emerged throughout the war. Like the Mills, it led to the development of other weapons: the Stokes-Newton 6 in mortar (the Mills led the way to the cup discharger).

The Stokes mortar was much more mobile than its predecessors but not so mobile that it could keep up with the infantry in an advance. This did not really become a problem until 1918. Nevertheless, from early 1917 onwards the question of mobility was addressed although not entirely successfully. It was, however, much easier to move and set up than previous mortars and, indeed, much more versatile. Part of the problem was the measures taken to make the weapon more stable on soft ground which were not compatible with mobility. Various mountings were looked at to solve the problem and ways of carrying the weapon were devised. In the end, it was a question of a different approach to using the weapon rather than of changing anything about the mortar that provided the answer. By mid-1918 it was even being considered as a possible anti-tank gun and anti-aircraft weapon although the former required a quite different mounting to enable the barrel to be brought to bear on the target.

The First World War was probably the first war in which weapons were developed in response to changing needs. This was mainly because the situation had never arisen before. Development of this type became commonplace during the Second World War and improvisation has long since become an accepted method of solving problems. In the 1991 Gulf War, improvisation in response to specific threats was not treated as anything out of the ordinary. Recognition of the fact that needs change with changing circumstances and that the flexibility to adapt is crucial stems in a large degree from the First World War. Rather than being hidebound by tradition and old-fashioned ways to the detriment of the conduct of the war, the development of new weapons, the willingness to use them and the desire to make them as efficient and safe as possible demonstrated that senior officers were more concerned with the welfare of their men than popular opinion has been manipulated to suggest. Without their consent and approval none of the new weapons would have found their way to the front and men like Newton would not have been encouraged. Newton ended the war a lieutenant-colonel and was awarded a CBE in 1920 for his contribution to the war effort. He was awarded $100,000 by the American government for his efforts, coming top of a US list of British war inventors.

Louis Jackson retired for the second time as an honorary major-general in November 1918. After his retirement, he contributed 'Fortifications and Siegecraft' to the eleventh edition of the *Encyclopaedia Britannica* and wrote articles on poison gas and military mining in the *Britannica*'s supplement. He was made a Commander of the Legion of Honour in 1917 and a KBE in 1918 for his contribution to the war. He died in 1946 aged ninety.

More than 75,000,000 Mills grenades were manufactured during the war. As the No. 36 grenade, the Mills remained in British service throughout the Second World War and was only retired in the 1970s. It is still in use today in some parts of the world. A television report in May 1998 about fighting somewhere in Africa showed a soldier proudly wearing a Mills on his belt. Neither the French nor the Germans had a comparable grenade. Considering all the patents related to the Mills, it would appear that the Germans no more availed themselves of enemy literature on munitions and related topics, than did the British (with the exception of the Krupp article on mortars that led to the toffee-apple). Leeming's worries over the potential value of patent abridgements and complete specifications to the enemy was apparently unjustified as no one seems to have thought of looking at them.

After the war, a Royal Commission on Awards to Inventors was set up to look into rewarding inventors who had made significant contributions to the war. Those who thought they had a case submitted claims to the commission which then examined the evidence and heard depositions from expert witnesses to decide if the claim was valid and the size of any sum to be awarded. The Royal Commission awarded Mills £27,750. He also made quite a lot of money from the manufacture of the grenade (his companies made millions of them) and from his patents. Mills was knighted in 1922. He died in 1932 at the age of seventy-six.

Wilfrid Stokes was made a KBE in 1917. In the end, over 11,000 mortars entered service and more than 20,000,000 shells were fired from Stokes mortars (in 1919, Stokes thought that between 7,000,000 and 8,000,000 had been fired in British service). Stokes submitted his claim to the Royal Commission on 6 June 1919 and on 3 May 1921 he submitted an amended claim. Why there was a two-year gap is not certain but it may simply be that it took that long for the commission to get round to his claim; it was certainly very busy dealing with many others. What is clear from both claims is that the government had not paid him any of the royalties promised in 1916. He also wanted to be paid the £3,000 he had spent out of his own pocket in developing the mortar and the shell. Moreover, he wanted to be recompensed for supplying GHQ with a mortar and 100 shells for a demonstration in France before the mortar had been accepted. He also wanted all the other 2,000 rounds fired in demonstrations and trials to be taken into account. In support of his claim he pointed out that the inventor of the all-ways fuse that was used solely with the Stokes and which had been very troublesome had already received an award of £14,000.

During the course of the commission's investigation of his claim it emerged that the Stokes was more accurate and more destructive than the 18-pounder. It was evidently considered to be good if about 5 per cent of 18-pounder shells hit the target whereas the Stokes could be relied on to hit the target with 70 per cent of its shells. The cost of an 18-pounder shell was £6 but a Stokes shell cost only £2. Clearly, the Stokes was more cost-effective. It also transpired that the US government had paid him £100,000 for the patent rights and the Italian government had paid him £50,000. The Ministry of Munitions did not support his claim and thought that he had been paid enough already. It would appear that, in the end, he was made an award of only £10,000, a paltry sum considering the value of the Stokes to the British war effort. The Stokes was the basis of the modern mortar and in its more highly developed forms saw service throughout the Second World War and into the present day.

The Burn cup discharger remained in service into the Second World War. The Livens Projector went the way of all gas weapons after the war and was never used again. Catapults, so useful in the dark days of 1915, returned to the pages of history. The flamethrower did not come of age until the discovery of thickening agents and the invention of napalm in particular. In the Second World War, American flamethrowers saw widespread use in the Pacific against Japanese bunkers.

The First World War was a remarkably inventive time. The technological and tactical differences between 1914 and 1918 was a gulf wider than a mere four years. It should never be forgotten that these same weapons helped to kill millions.